Contemporary management of small renal masses at the Jefferson Small Renal Mass Center of the Genitourinary Multidisciplinary Cancer Program

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The incidence of small renal masses, defined as enhancing renal cortical lesions ≤4cm (clinical stage T1a), has risen significantly over the past 30 years, primarily due to the rising use and availability of cross sectional imaging such as CT and MRI. The vast majority of these lesions are asymptomatic and would be classified as incidental findings, and currently comprise 48-66% of renal cortical tumors, compared with 3-13% of lesions discovered in the 1970s. It is estimated that upwards of 60% or greater of these renal lesions are discovered during medical evaluation for other medical conditions, which is expected to continue to rise as abdominal imaging utilization continues to rise.

The traditional gold standard treatment for solid renal masses detected on imaging was surgical excision through radical nephrectomy. However, as the lesion size became smaller, with the much higher incidence of incidentally detected small asymptomatic lesions, the need for radical surgery has been called into question as potential surgical "overkill", with a growing awareness and emphasis for renal preservation and nephron sparing. This has led to the growing acceptance of partial treatment options such as partial nephrectomy or energy ablation as well as active surveillance in carefully selected patients.

The current NCCN guidelines for small renal masses are:

Stage IA →
- Partial Nephrectomy
- Radical Nephrectomy
- Energy ablative techniques (cryo, RFA)
- Active surveillance

At Jefferson, we have developed a collaborative effort between the Deaprtments of Urology and Radiology within the KCC and established the Small Renal Mass Center of the Genitourinary Multidisciplinary Cancer program in KCC. This is led by Dr. Costas Lallas (Urology) and Dr. Colette Shaw (Interventional Radiology), and meets twice per month as part of GU Multidisciplinary Cancer Clinic. Initially diagnosed patients, as well as previously treated patients are seen together by Urology and Radiology on an ongoing basis. Patients are evaluated for percutaneous cryosurgical ablation or surgical intervention, and then come back on a regular schedule for repeat imaging and blood work.

There are 73 patients in the cancer center registry for 2010 and 2011 with small renal masses (stage IA, ≤4cm). The treatment options selected for these patients include radical or partial nephrectomy, percutaneous cryosurgical ablation, or observation. As the following table demonstrates, the treatment trends changed from 2010 to 2011:

	2010		**2011**	
Cryosurgery	4	11%	9	24%
Partial Nephrectomy	17	47%	14	38%
Radical Nephrectomy	12	33%	9	24%
Observation	3	8%	5	13%
Total	**36**		**37**	

While the numbers are small, and remained relatively flat from 2010 to 2011, there were more patients treated with nephron sparing techniques (partial nephrectomy or cryosurgery) than radical nephrectomy. Additionally, the percentage of patients on observation rose as well. This is consistent with national trends and the NCCN guidelines.